```
Connecting via Winsock to STN


Welcome to STN International!  Enter x:x

LOGINID:ssspta1652dmr

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *  Welcome to STN International  * * * * * * * * * *

 NEWS  1          Web Page for STN Seminar Schedule - N. America
 NEWS  2  NOV 21  CAS patent coverage to include exemplified prophetic
                  substances identified in English-, French-, German-,
                  and Japanese-language basic patents from 2004-present
 NEWS  3  NOV 26  MARPAT enhanced with FSORT command
 NEWS  4  NOV 26  CHEMSAFE now available on STN Easy
 NEWS  5  NOV 26  Two new SET commands increase convenience of STN
                  searching
 NEWS  6  DEC 01  ChemPort single article sales feature unavailable
 NEWS  7  DEC 12  GBFULL now offers single source for full-text
                  coverage of complete UK patent families
 NEWS  8  DEC 17  Fifty-one pharmaceutical ingredients added to PS
 NEWS  9  JAN 06  The retention policy for unread STNmail messages
                  will change in 2009 for STN-Columbus and STN-Tokyo
 NEWS 10  JAN 07  WPIDS, WPINDEX, and WPIX enhanced Japanese Patent
                  Classification Data
 NEWS 11  FEB 02  Simultaneous left and right truncation (SLART) added
                  for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
 NEWS 12  FEB 02  GENBANK enhanced with SET PLURALS and SET SPELLING
 NEWS 13  FEB 06  Patent sequence location (PSL) data added to USGENE
 NEWS 14  FEB 10  COMPENDEX reloaded and enhanced
 NEWS 15  FEB 11  WTEXTILES reloaded and enhanced
 NEWS 16  FEB 19  New patent-examiner citations in 300,000 CA/CAplus
                  patent records provide insights into related prior
                  art
 NEWS 17  FEB 19  Increase the precision of your patent queries -- use
                  terms from the IPC Thesaurus, Version 2009.01
 NEWS 18  FEB 23  Several formats for image display and print options
                  discontinued in USPATFULL and USPAT2
 NEWS 19  FEB 23  MEDLINE now offers more precise author group fields
                  and 2009 MeSH terms
 NEWS 20  FEB 23  TOXCENTER updates mirror those of MEDLINE - more
                  precise author group fields and 2009 MeSH terms
 NEWS 21  FEB 23  Three million new patent records blast AEROSPACE into
                  STN patent clusters
 NEWS 22  FEB 25  USGENE enhanced with patent family and legal status
                  display data from INPADOCDB
 NEWS 23  MAR 06  INPADOCDB and INPAFAMDB enhanced with new display
                  formats
 NEWS 24  MAR 11  EPFULL backfile enhanced with additional full-text
                  applications and grants
 NEWS 25  MAR 11  ESBIOBASE reloaded and enhanced
 NEWS 26  MAR 20  CAS databases on STN enhanced with new super role
                  for nanomaterial substances
 NEWS 27  MAR 23  CA/CAplus enhanced with more than 250,000 patent
                  equivalents from China
```

```
 NEWS EXPRESS JUNE 27 08 CURRENT WINDOWS VERSION IS V8.3,
              AND CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.

 NEWS HOURS     STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN     Welcome Banner and News Items
 NEWS IPC8      For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that
specific topic.

  All use of STN is subject to the provisions of the STN customer
  agreement.  This agreement limits use to scientific research.  Use
  for software development or design, implementation of commercial
  gateways, or use of CAS and STN data in the building of commercial
  products is prohibited and may result in loss of user privileges
  and other penalties.

* * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 17:20:32 ON 26 MAR 2009

=> index bioscience medicine
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE,
       AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS,
       CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB,
       DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 17:20:47 ON 26 MAR 2009

71 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
search error messages that display as 0* with SET DETAIL OFF.

=> s (asparaginas? or (asparagin?(3a)amidohydrolas?))
        476   FILE ADISCTI
          6   FILE ADISINSIGHT
        135   FILE ADISNEWS
        202   FILE AGRICOLA
         40   FILE ANABSTR
          6   FILE ANTE
          1   FILE AQUALINE
         31   FILE AQUASCI
        138   FILE BIOENG
       4281   FILE BIOSIS
        285   FILE BIOTECHABS
        285   FILE BIOTECHDS
       1095   FILE BIOTECHNO
        364   FILE CABA
       4307   FILE CAPLUS
         59   FILE CEABA-VTB
         34   FILE CIN
        152   FILE CONFSCI
       1883   FILE DDFB
       2318   FILE DDFU
        760   FILE DGENE
         97   FILE DISSABS
       1883   FILE DRUGB
```

```
         102   FILE DRUGMONOG2
        2441   FILE DRUGU
          15   FILE EMBAL
        8061   FILE EMBASE
         623   FILE ESBIOBASE
           5   FILE FOREGE
          43   FILE FROSTI
          46   FILE FSTA
        2269   FILE GENBANK
           6   FILE HEALSAFE
         815   FILE IFIPAT
          15   FILE IMSDRUGNEWS
          55   FILE IMSPRODUCT
           5   FILE IMSRESEARCH
         427   FILE LIFESCI
        3899   FILE MEDLINE
          86   FILE NTIS
           1   FILE NUTRACEUT
           9   FILE OCEAN
        1250   FILE PASCAL
          47   FILE PCTGEN
         583   FILE PHAR
          18   FILE PHARMAML
          95   FILE PHIN
         190   FILE PROMT
           7   FILE PROUSDDR
           1   FILE PS
        2386   FILE SCISEARCH
        4942   FILE TOXCENTER
         355   FILE USGENE
        8613   FILE USPATFULL
          27   FILE USPATOLD
        1471   FILE USPAT2
          21   FILE VETB
         168   FILE VETU
           3   FILE WATER
         838   FILE WPIDS
           1   FILE WPIFV
         838   FILE WPINDEX
  68 FILES SEARCHED...
         252   FILE IPA
          19   FILE NAPRALERT
         125   FILE NLDB

  65 FILES HAVE ONE OR MORE ANSWERS,   71 FILES SEARCHED IN STNINDEX

L1   QUE (ASPARAGINAS? OR (ASPARAGIN?(3A) AMIDOHYDROLAS?))

=> d rank
F1         8613   USPATFULL
F2         8061   EMBASE
F3         4942   TOXCENTER
F4         4307   CAPLUS
F5         4281   BIOSIS
F6         3899   MEDLINE
F7         2441   DRUGU
F8         2386   SCISEARCH
F9         2318   DDFU
F10        2269   GENBANK
F11        1883   DDFB
F12        1883   DRUGB
F13        1471   USPAT2
```

```
F14        1250   PASCAL
F15        1095   BIOTECHNO
F16         838   WPIDS
F17         838   WPINDEX
F18         815   IFIPAT
F19         760   DGENE
F20         623   ESBIOBASE
F21         583   PHAR
F22         476   ADISCTI
F23         427   LIFESCI
F24         364   CABA
F25         355   USGENE
F26         285   BIOTECHABS
F27         285   BIOTECHDS
F28         252   IPA
F29         202   AGRICOLA
F30         190   PROMT
F31         168   VETU
F32         152   CONFSCI
F33         138   BIOENG
F34         135   ADISNEWS
F35         125   NLDB
F36         102   DRUGMONOG2
F37          97   DISSABS
F38          95   PHIN
F39          86   NTIS
F40          59   CEABA-VTB
F41          55   IMSPRODUCT
F42          47   PCTGEN
F43          46   FSTA
F44          43   FROSTI
F45          40   ANABSTR
F46          34   CIN
F47          31   AQUASCI
F48          27   USPATOLD
F49          21   VETB
F50          19   NAPRALERT
F51          18   PHARMAML
F52          15   EMBAL
F53          15   IMSDRUGNEWS
F54           9   OCEAN
F55           7   PROUSDDR
F56           6   ADISINSIGHT
F57           6   ANTE
F58           6   HEALSAFE
F59           5   FOREGE
F60           5   IMSRESEARCH
F61           3   WATER
F62           1   AQUALINE
F63           1   NUTRACEUT
F64           1   PS
F65           1   WPIFV


=> file f1-f9, f11-f14
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 2.04       2.26

FILE 'USPATFULL' ENTERED AT 17:22:25 ON 26 MAR 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)
```

```
FILE 'EMBASE' ENTERED AT 17:22:25 ON 26 MAR 2009
Copyright (c) 2009 Elsevier B.V. All rights reserved.

FILE 'TOXCENTER' ENTERED AT 17:22:25 ON 26 MAR 2009
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPLUS' ENTERED AT 17:22:25 ON 26 MAR 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'BIOSIS' ENTERED AT 17:22:25 ON 26 MAR 2009
Copyright (c) 2009 The Thomson Corporation

FILE 'MEDLINE' ENTERED AT 17:22:25 ON 26 MAR 2009

FILE 'DRUGU' ENTERED AT 17:22:25 ON 26 MAR 2009
COPYRIGHT (C) 2009 THOMSON REUTERS

FILE 'SCISEARCH' ENTERED AT 17:22:25 ON 26 MAR 2009
Copyright (c) 2009 The Thomson Corporation

FILE 'DDFU' ACCESS NOT AUTHORIZED

FILE 'DDFB' ENTERED AT 17:22:25 ON 26 MAR 2009
COPYRIGHT (C) 2009 THOMSON REUTERS

FILE 'DRUGB' ENTERED AT 17:22:25 ON 26 MAR 2009
COPYRIGHT (C) 2009 THOMSON REUTERS

FILE 'USPAT2' ENTERED AT 17:22:25 ON 26 MAR 2009
CA INDEXING COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'PASCAL' ENTERED AT 17:22:25 ON 26 MAR 2009
Any reproduction or dissemination in part or in full,
by means of any process and on any support whatsoever
is prohibited without the prior written agreement of INIST-CNRS.
COPYRIGHT (C) 2009 INIST-CNRS. All rights reserved.

=> s (asparaginas? or (asparagin?(3a)amidohydrolas?))
L2       45417 (ASPARAGINAS? OR (ASPARAGIN?(3A) AMIDOHYDROLAS?))

=> s l2 (15a)(aspergil? or niger?)
L3         122 L2 (15A)(ASPERGIL? OR NIGER?)

=> s l3(15a)niger?
L4          42 L3(15A) NIGER?

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5           31 DUP REM L4 (11 DUPLICATES REMOVED)

=> d ti l5 1-31

L5   ANSWER 1 OF 31  USPATFULL on STN
TI     Prcoess for Reducing Acrylamide

L5   ANSWER 2 OF 31  TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 1
TI   Aspergillus niger asparaginase variants and
     their commercial uses

L5   ANSWER 3 OF 31  TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 2
```

TI Aspergillus niger asparaginase variants and their commercial uses

L5 ANSWER 4 OF 31 TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 3
TI Design of thermostable asparaginases and their use for reduction of acrylamide in foods

L5 ANSWER 5 OF 31 USPATFULL on STN
TI Process Flavours with Low Acrylamide

L5 ANSWER 6 OF 31 USPATFULL on STN
TI PROCESS FOR TREATING VEGETABLE MATERIAL WITH AN ENZYME

L5 ANSWER 7 OF 31 USPATFULL on STN
TI Methods for reducing asparagine in a food material using cooling

L5 ANSWER 8 OF 31 USPATFULL on STN
TI Methods for reducing asparagine in a dough food component using water activity

L5 ANSWER 9 OF 31 USPATFULL on STN
TI Method of Preparing a Heat-Treated Product

L5 ANSWER 10 OF 31 USPATFULL on STN
TI Asparaginases and Method of Preparing a Heat-Treated Product

L5 ANSWER 11 OF 31 USPATFULL on STN
TI Amidases from Aspergillus Niger and Their Use in a Food Production Process

L5 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
TI Production of L-asparaginase by isolated Aspergillus species using SSF

L5 ANSWER 13 OF 31 USPATFULL on STN
TI Novel food production process

L5 ANSWER 14 OF 31 USPATFULL on STN
TI Novel food production process

L5 ANSWER 15 OF 31 USPATFULL on STN
TI Functionalization of yarn and textile products

L5 ANSWER 16 OF 31 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN
TI Development and application of aspergillus niger asparaginase to prevent the formation of acrylamide in food products

L5 ANSWER 17 OF 31 USPATFULL on STN DUPLICATE 4
TI Method of preparing a heat-treated product

L5 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
TI Detection of the antitumor glutaminase-asparaginase in the filamentous fungi

L5 ANSWER 19 OF 31 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights reserved on STN DUPLICATE 5
TI Production of L-asparaginase, an anticancer agent, from Aspergillus niger using agricultural waste in solid state fermentation.

L5 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN

```
TI   Enzymic processing of food to limit acrylamide formation

L5   ANSWER 21 OF 31  TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 6
TI   Food production process involving asparaginase yielded from
     recombinant Aspergillus niger

L5   ANSWER 22 OF 31  TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 7
TI   Purification and properties of L-asparaginase produced by
     Aspergillus niger, S-48 TAT, the causal fungus of
     biodeterioration inside Tut Ankhamen Tomb (TAT)

L5   ANSWER 23 OF 31  CAPLUS  COPYRIGHT 2009 ACS on STN
TI   Factors affecting the production and activity of fungal asparaginases
     using whey

L5   ANSWER 24 OF 31  BIOSIS  COPYRIGHT (c) 2009 The Thomson Corporation  on
     STN
TI   ENZYMES IMMOBILIZED ON ALUMINA AND STAINLESS STEEL SUPPORTS.

L5   ANSWER 25 OF 31  CAPLUS  COPYRIGHT 2009 ACS on STN
TI   Are the urease and asparaginase of Aspergillus
     niger endocellular enzymes?

L5   ANSWER 26 OF 31  BIOSIS  COPYRIGHT (c) 2009 The Thomson Corporation  on
     STN
TI   L'urease et l'asparaginase de l'Aspergillus
     niger sont-elles des endo-diastases?.

L5   ANSWER 27 OF 31  CAPLUS  COPYRIGHT 2009 ACS on STN
TI   The evolution of urease in cultures of Aspergillus niger

L5   ANSWER 28 OF 31  CAPLUS  COPYRIGHT 2009 ACS on STN
TI   The evolution of asparaginase in cultures of Aspergillus
     niger

L5   ANSWER 29 OF 31  BIOSIS  COPYRIGHT (c) 2009 The Thomson Corporation  on
     STN
TI   L'evolution de l'asparaginase dans les cultures de l'
     Aspergillus niger.

L5   ANSWER 30 OF 31  CAPLUS  COPYRIGHT 2009 ACS on STN
TI   Fermentative hydrolysis of asparagine by the Mycelium of Aspergillus niger

L5   ANSWER 31 OF 31  CAPLUS  COPYRIGHT 2009 ACS on STN
TI   Conditions of action of asparaginase of Aspergillus
     niger


=> d ibib abs l5 2 4 12 16 19 21 22 25 28 31

L5   ANSWER 2 OF 31  TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 1
ACCESSION NUMBER:    2008:333054  TOXCENTER
COPYRIGHT:           Copyright 2009 ACS
DOCUMENT NUMBER:     CA14923507705E
TITLE:               Aspergillus niger asparaginase
                     variants and their commercial uses
AUTHOR(S):           Laan, Van Der Jan Metske; Stor, Mark Cristiaan; Lange, De
                     Ilse; Mohrmann, Lisette
CORPORATE SOURCE:    ASSIGNEE: DSM IP Assets B. V.
PATENT INFORMATION:  WO 2008128975 A1 30 Oct 2008
SOURCE:              (2008) PCT Int. Appl., 70pp.
                     CODEN: PIXXD2.
```

COUNTRY: NETHERLANDS
DOCUMENT TYPE: Patent
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 2008:1299788
LANGUAGE: English
ENTRY DATE: Entered STN: 11 Nov 2008
Last Updated on STN: 2 Dec 2008

AB The present provides two polypeptide variants of Aspergillus niger asparaginase and to polynucleotide sequences that encode such novel asparaginase variants. The variants display a higher specific activity at the same pH, a higher pH optimum and broader pH-activity profile, and improved thermostability, in comparison to the wild-type enzyme. Furthermore, the invention relates to the use of these novel asparaginase variants in industrial processes, including the reduction of acrylamide formed in thermally processed food products via the maillard reaction and use a a medicament in the treatment of tumors.

L5 ANSWER 4 OF 31 TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 2008:308413 TOXCENTER
COPYRIGHT: Copyright 2009 ACS
DOCUMENT NUMBER: CA14918396649T
TITLE: Design of thermostable asparaginases and their use for reduction of acrylamide in foods
AUTHOR(S): Matsui, Tomoko; Friis, Esben Peter; Yamagishi, Akihiko
CORPORATE SOURCE: ASSIGNEE: Novozymes A/S
PATENT INFORMATION: WO 2008110513 A1 18 Sep 2008
SOURCE: (2008) PCT Int. Appl., 63pp.
CODEN: PIXXD2.
COUNTRY: DENMARK
DOCUMENT TYPE: Patent
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 2008:1119491
LANGUAGE: English
ENTRY DATE: Entered STN: 14 Oct 2008
Last Updated on STN: 4 Nov 2008

AB The invention relates to new asparaginases having improved properties, preferably improved thermotolerance, such as improved activity at high temps. and/or improved thermostability. The three-dimensional of an asparaginase from Aspergillus oryzae was modeled based on the published structure of a homologous enzyme from Erwinia chrysanthemi. Based on the modeled structure, amino acid residues are identified of relevance for improving the properties of the asparaginase, especially the thermotolerance. Further, an inferred ancestral asparaginase sequence was predicted, and from this sequence further amino acid residues of relevance for improving the properties of the asparaginase are identified. Based on such structural and functional considerations, asparaginase variants are constructed having modified amino acid residues at the identified positions and having altered physiochem. properties, especially improved relative activity at high temps. and/or improved thermostability. The invention also relates to DNA sequences encoding such improved asparaginases, their production in a recombinant host cell, as well as methods of using the asparaginases, in particular for reduction of acrylamide in foods.

L5 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:1170798 CAPLUS
TITLE: Production of L-asparaginase by isolated Aspergillus species using SSF
AUTHOR(S): Uppuluri, K. B.; Kalidindi, S. V.; Sekhar, P. V. G. V.; Harish, Ch.; Reddy, D. S. Rami
CORPORATE SOURCE: Department of Biotechnology, Bapatla Engineering College, Bapatla, 52101, India

SOURCE: Biosciences, Biotechnology Research Asia (2008), 5(1), 229-236
CODEN: BBRAB4; ISSN: 0973-1245
PUBLISHER: Oriental Scientific Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Acute lymphocytic leukemia is a common leukemia characterized by frequent infections and anemia. Thousands of new cases are diagnosed each year worldwide. L-asparaginase (E.C.3.5.1.1), also known as L-asparagine amino hydrolase, is a potential anti tumor enzyme that catalyzes the hydrolysis of L-asparagine into L-aspartic acid and ammonia. L-asparaginase production was investigated in the filamentous fungi on sesame cake using solid state fermentation(SSF). One-factor-at-a-time approach design was applied to optimize a solid-state fermentation using the sesame cake as a main substrate, for the production of L-asparaginase by isolated Aspergillus Species. Effect of Various environmental factors like Particle size of the solid medium, Moisture content, Incubation pH, Time and temperature and number of different nutritional supplements were verified on the activity and specific activity of extracellular enzyme, L-asparaginase. Among those pH, Particle size, moisture content, glucose, Ammonium sulfate and L-asparagine were the most significant factors improving enzyme production process. The second optimization step was carried out to identify the different sources of the three factors influencing the production of enzyme namely Glucose, ammonium sulfate and L-asparagine, that bringing about maximum L-asparaginase activity. Maximal enzyme activity (191.2 IU) has been detected under the following conditions, pH 6.5, temperature 32°C, incubation period 108 h, particle size of 0.67 cm, moisture content of 1:1 (Media: buffer) when medium was supplemented with 3%weight/weight Fructose, 3%weight/weight Ammonium sulfate, 0.1%weight/weight L-Asparagine, 0.01% weight/weight Magnesium Sulfate, 01% weight/weight sodium chloride and inoculum size of 1.5ml (1.6 + 103 Spores/mL) which is nearly three folds the activity in basal medium.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 16 OF 31 SCISEARCH COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 2007:953935 SCISEARCH
THE GENUINE ARTICLE: 192FE
TITLE: Development and application of aspergillus niger asparaginase to prevent the formation of acrylamide in food products
AUTHOR: Koster, F.
CORPORATE SOURCE: DSM Food Specialties, Delft, Netherlands
COUNTRY OF AUTHOR: Netherlands
SOURCE: ANNALS OF NUTRITION AND METABOLISM, (2007) Vol. 51, Supp. [1], pp. 393-393.
ISSN: 0250-6807.
PUBLISHER: KARGER, ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND.
DOCUMENT TYPE: Conference; Journal
LANGUAGE: English
REFERENCE COUNT: 0
ENTRY DATE: Entered STN: 4 Oct 2007
Last Updated on STN: 4 Oct 2007

L5 ANSWER 19 OF 31 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights reserved on STN DUPLICATE 5
ACCESSION NUMBER: 2006520364 EMBASE
TITLE: Production of L-asparaginase, an anticancer agent, from Aspergillus niger using

agricultural waste in solid state fermentation.
AUTHOR: Mishra, Abha (correspondence)
CORPORATE SOURCE: School of Biochemical Engineering, Institute of Technology, Banaras Hindu University, Varanasi-221005, India. abha91@yahoo.co.in
SOURCE: Applied Biochemistry and Biotechnology, (Oct 2006) Vol. 135, No. 1, pp. 33-42.
Refs: 20
ISSN: 0273-2289
PUBLISHER IDENT.: ABAB135133
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 037 Drug Literature Index
004 Microbiology: Bacteriology, Mycology, Parasitology and Virology
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 10 Nov 2006
Last Updated on STN: 10 Nov 2006

AB This article reports the production of high levels of L-asparaginase from a new isolate of Aspergillus niger in solid state fermentation (SSF) using agrowastes from three leguminous crops (bran of Cajanus cajan, Phaseolus mungo, and Glycine max). When used as the sole source for growth in SSF, bran of G. max showed maximum enzyme production followed by that of P. mungo and C. cajan. A 96-h fermentation time under aerobic condition with moisture content of 70%, 30 min of cooking time and 1205-1405 μ range of particle size in SSF appeared optimal for enzyme production. Enzyme yield was maximum (40.9 ± 3.35 U/g of dry substrate) at pH 6.5 and temperature 30 ± 2°C. The optimum temperature and pH for enzyme activity were 40°C and 6.5, respectively. The study suggests that choosing an appropriate substrate when coupled with process level optimization improves enzyme production markedly. Developing an asparaginase production process based on bran of G. max as a substrate in SSF is economically attractive as it is a cheap and readily available raw material in agriculture-based countries. Copyright .COPYRGT. 2006 by Humana Press Inc.

L5 ANSWER 21 OF 31 TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 6
ACCESSION NUMBER: 2004:102087 TOXCENTER
COPYRIGHT: Copyright 2009 ACS
DOCUMENT NUMBER: CA14021338277Y
TITLE: Food production process involving asparaginase yielded from recombinant Aspergillus niger
AUTHOR(S): Plomp, Pieter Jan Arnoldus Maria; De Boer, Lex; Van Rooijen, Rutger Jan; Meima, Roelf Bernhard
CORPORATE SOURCE: ASSIGNEE: DSM Ip Assets B.V.
PATENT INFORMATION: WO 2004030468 A2 15 Apr 2004
SOURCE: (2004) PCT Int. Appl., 46 pp.
CODEN: PIXXD2.
COUNTRY: NETHERLANDS
DOCUMENT TYPE: Patent
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 2004:308353
LANGUAGE: English
ENTRY DATE: Entered STN: 4 May 2004
Last Updated on STN: 22 Jan 2008

AB A process for the production of a food product involving at least one heating step, comprises adding one or more enzymes to an intermediate form of the food product in the production process. The enzyme is added prior to the heating step in an amount that is effective in reducing the level of amino

acids that are present in the intermediate form of the food product which amino acids are involved in the formation of acrylamide during the heating step. The invention also relates to food products obtained from the process. Thus, the asparaginase encoded by a nucleotide sequence is obtained by constructing expression plamids containing the DNA sequence, transforming an Aspergillus niger strain with this plamid, and growing the strain.

L5 ANSWER 22 OF 31 TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 7
ACCESSION NUMBER: 1999:196080 TOXCENTER
COPYRIGHT: Copyright 2009 ACS
DOCUMENT NUMBER: CA13126348273X
TITLE: Purification and properties of L-asparaginase produced by Aspergillus niger, S-48
TAT, the causal fungus of biodeterioration inside Tut Ankhamen Tomb (TAT)
AUTHOR(S): Louboudy, S. S.
CORPORATE SOURCE: Bot. & Microbiol, Dept., Fac. of Sci., Al-Azhar Univ., Cairo, Egypt.
SOURCE: Egyptian Journal of Biotechnology, (1998) Vol. 4, pp. 110-123.
CODEN: EJBIF7. ISSN: 1110-6093.
COUNTRY: EGYPT
DOCUMENT TYPE: Journal
FILE SEGMENT: CAPLUS
OTHER SOURCE: CAPLUS 1999:649978
LANGUAGE: English
ENTRY DATE: Entered STN: 16 Nov 2001
Last Updated on STN: 9 May 2002

AB The purification and properties of L-asparaginase (I) produced by A. niger S-48 TAT, the causal factor of biodeterioration inside the Pharaoh Tutankhamen tomb (TAT), is reported. The purification procedure involved cell-free filtrate preparation (specific activity of 8.92 U/mg protein/mL), fractional precipitation with (NH4)2SO4, (specific activity of 21.05
U/mg protein/mL corresponding to a 2.35-fold purification), dialysis against distilled water followed by dialysis against sucrose crystals, (specific activity of 36.92 U/mg protein/mL, corresponding to a 5.7-fold purification) and finally applying a column of Sephadex G-100 (specific activity of 61.0 U/mg protein/mL corresponding to a 6.83-fold purification). The regulatory role of different buffers applied at different pH values revealed that purified I exhibited a maximum specific activity of 62.8 U/mg protein/mL in the presence of citrate-phosphate buffer pH 6.6, followed by citrate buffer pH 6.0 (specific activity of 55.46 U/mg protein/mL) and then Tris-HCl buffer pH 7.4 which revealed an obvious decrease in the specific activity (34.16 U/mg protein/mL). By testing purified I in the presence of different substrates, it was found that the highest activity was obtained by using the most preferable one, i.e., L-asparagine, followed by L-aspartic acid, L-glutamine, and L-glutamic acid, whereas L-arginine, L-ornithine, L-threonine and L-citrulline showed negligible or inhibitory effects toward the purified enzyme activity. Moreover, the application of different heavy metal cations (in the form of chloride salts in addition to KCN) as activators and/or inhibitors indicated that CaCl2, NH4Cl, BaCl2, and MnCl2 promoted I activity, whereas AlCl3, KCN, NiCl2, ZnCl2, FeCl2, and MgCl2 had deleterious effects on enzyme activity. Purified I was tested at different incubation temps., and showed obvious activity within the temperature range of 22.5-45° with a maximum at 30°.

L5 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1930:23193 CAPLUS
DOCUMENT NUMBER: 24:23193
ORIGINAL REFERENCE NO.: 24:2478g-h

TITLE: Are the urease and asparaginase of Aspergillus niger endocellular enzymes?
AUTHOR(S): Bach, D.
SOURCE: Bulletin de la Societe de Chimie Biologique (1929), 11, 1016-24
CODEN: BSCIA3; ISSN: 0037-9042
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The dried and finely ground mycelium of Aspergillus niger lost about 2/3 of its urease and asparaginase activity when suspended in buffer solution and filtered through paper. The filtrate from a Chamberland filter was practically inactive. Enzyme activity was also greatly reduced by long-continued maceration. It is concluded from these and other expts. described previously that both enzymes are endocellular.

L5 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1930:23191 CAPLUS
DOCUMENT NUMBER: 24:23191
ORIGINAL REFERENCE NO.: 24:2478e-f
TITLE: The evolution of asparaginase in cultures of Aspergillus niger
AUTHOR(S): Bach, D.
SOURCE: Bulletin de la Societe de Chimie Biologique (1929), 11, 995-1006
CODEN: BSCIA3; ISSN: 0037-9042
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB cf. C. A. 24, 1133. Asparaginase is an endocellular enzyme which is normally present independently of asparagine in the media. The amount present declines to a min. in 6 days, rises to a maximum in 10 days, and steadily declines to 20 days. The asparaginase activity is parallel with the general proteolytic activity for supplying NH3 to the cultures.

L5 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1929:7263 CAPLUS
DOCUMENT NUMBER: 23:7263
ORIGINAL REFERENCE NO.: 23:861h-i
TITLE: Conditions of action of asparaginase of Aspergillus niger
AUTHOR(S): Bach, D.
SOURCE: Compt. rend. (1928), 187, 955-6
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB The enzyme was active only in neutral or slightly alkaline media, the optimum PH being 84 to 88. At the same time Aspergillus niger was able to utilize asparagine completely in media more acid than pH 6.4. The optimum temperature varied with the pH of the medium being 42° for pH 8.6 and 31° for pH 7.6. The temperature zone of action was wide, extending from 7° to 70°. When the concentration of the substrate (asparagine) increased beyond 1%, the NH3 produced tended toward a limit which was independent of the concentration of the substrate. Complete hydrolysis of the asparagine was not attained, but reached about 80% under optimum conditions. As the hydrolysis proceeded there was a diminution in its velocity after about 36 hrs., due principally to a destruction of the enzyme. The presence of asparagine tended to protect the asparaginase from autodestruction.

=> d kwic 15 22 31

```
L5   ANSWER 22 OF 31  TOXCENTER COPYRIGHT 2009 ACS on STN DUPLICATE 7
TI   Purification and properties of L-asparaginase produced by
     Aspergillus niger, S-48 TAT, the causal fungus of
     biodeterioration inside Tut Ankhamen Tomb (TAT)
AB   The purification and properties of L-asparaginase (I) produced by A.
     niger S-48 TAT, the causal factor of biodeterioration inside the
     Pharaoh Tutankhamen tomb (TAT), is reported.  The purification procedure
     involved cell-free.  .  .

L5   ANSWER 31 OF 31  CAPLUS  COPYRIGHT 2009 ACS on STN
TI   Conditions of action of asparaginase of Aspergillus
     niger
IT   Aspergillus niger
        (asparaginase of, conditions of action of)
IT   70-47-3, Asparagine
        (hydrolysis by asparaginase of Aspergillus
        niger)
IT   9015-68-3, Asparaginase
        (in Aspergillus niger, conditions of action of)


=> FIL STNGUIDE
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      92.34      94.60

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                      -3.28      -3.28

FILE 'STNGUIDE' ENTERED AT 17:43:09 ON 26 MAR 2009
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2009 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Mar 20, 2009 (20090320/UP).

=> d his full

     (FILE 'HOME' ENTERED AT 17:20:32 ON 26 MAR 2009)

     INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE,
     AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS,
     CEABA-VTB, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DISSABS, DRUGB,
     DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 17:20:47 ON 26 MAR 2009
               SEA (ASPARAGINAS? OR (ASPARAGIN?(3A)AMIDOHYDROLAS?))
               ---------
             476   FILE ADISCTI
               6   FILE ADISINSIGHT
             135   FILE ADISNEWS
             202   FILE AGRICOLA
              40   FILE ANABSTR
               6   FILE ANTE
               1   FILE AQUALINE
              31   FILE AQUASCI
             138   FILE BIOENG
            4281   FILE BIOSIS
             285   FILE BIOTECHABS
             285   FILE BIOTECHDS
            1095   FILE BIOTECHNO
             364   FILE CABA
            4307   FILE CAPLUS
```

```
              59   FILE CEABA-VTB
              34   FILE CIN
             152   FILE CONFSCI
            1883   FILE DDFB
            2318   FILE DDFU
             760   FILE DGENE
              97   FILE DISSABS
            1883   FILE DRUGB
             102   FILE DRUGMONOG2
            2441   FILE DRUGU
              15   FILE EMBAL
            8061   FILE EMBASE
             623   FILE ESBIOBASE
               5   FILE FOREGE
              43   FILE FROSTI
              46   FILE FSTA
            2269   FILE GENBANK
               6   FILE HEALSAFE
             815   FILE IFIPAT
              15   FILE IMSDRUGNEWS
              55   FILE IMSPRODUCT
               5   FILE IMSRESEARCH
             427   FILE LIFESCI
            3899   FILE MEDLINE
              86   FILE NTIS
               1   FILE NUTRACEUT
               9   FILE OCEAN
            1250   FILE PASCAL
              47   FILE PCTGEN
             583   FILE PHAR
              18   FILE PHARMAML
              95   FILE PHIN
             190   FILE PROMT
               7   FILE PROUSDDR
               1   FILE PS
            2386   FILE SCISEARCH
            4942   FILE TOXCENTER
             355   FILE USGENE
            8613   FILE USPATFULL
              27   FILE USPATOLD
            1471   FILE USPAT2
              21   FILE VETB
             168   FILE VETU
               3   FILE WATER
             838   FILE WPIDS
               1   FILE WPIFV
             838   FILE WPINDEX
             252   FILE IPA
              19   FILE NAPRALERT
             125   FILE NLDB
L1              QUE (ASPARAGINAS? OR (ASPARAGIN?(3A) AMIDOHYDROLAS?))
                ---------
                D RANK

     FILE 'USPATFULL, EMBASE, TOXCENTER, CAPLUS, BIOSIS, MEDLINE, DRUGU,
     SCISEARCH, DDFB, DRUGB, USPAT2, PASCAL' ENTERED AT 17:22:25 ON 26 MAR 2009
L2         45417 SEA (ASPARAGINAS? OR (ASPARAGIN?(3A) AMIDOHYDROLAS?))
L3           122 SEA L2 (15A)(ASPERGIL? OR NIGER?)
L4            42 SEA L3(15A) NIGER?
L5            31 DUP REM L4 (11 DUPLICATES REMOVED)
                D TI L5 1-31
                D IBIB ABS L5 2 4 12 16 19 21 22 25 28 31
```

D KWIC L5 22 31

FILE 'STNGUIDE' ENTERED AT 17:43:09 ON 26 MAR 2009

FILE HOME

FILE STNINDEX

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 26 Mar 2009 (20090326/PD)
FILE LAST UPDATED: 26 Mar 2009 (20090326/ED)
HIGHEST GRANTED PATENT NUMBER: US7509687
HIGHEST APPLICATION PUBLICATION NUMBER: US20090083889
CA INDEXING IS CURRENT THROUGH 26 Mar 2009 (20090326/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 26 Mar 2009 (20090326/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2008
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2008

USPATFULL now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2008.

FILE EMBASE
FILE COVERS 1974 TO 26 Mar 2009 (20090326/ED)

EMBASE was reloaded on March 30, 2008.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

Beginning January 2008, Elsevier will no longer provide EMTREE codes as part of the EMTREE thesaurus in EMBASE. Please update your current-awareness alerts (SDIs) if they contain EMTREE codes.

For further assistance, please contact your local helpdesk.

FILE TOXCENTER

FILE COVERS 1907 TO 24 Mar 2009 (20090324/ED)

The MEDLINE file segment has been reload and updated with the National Library of Medicine's revised 2009 MeSH terms.
See HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

The BIOSIS segment of TOXCENTER has been augmented with 13,000 records from 1946 through 1968.

FILE CAPLUS

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching